REMARKS

I. RESPONSE TO OFFICE ACTION

This responds to the Office action mailed March 26, 2004.

* Enclosed is the required fee of $950.00 for a three-month
* extension. Also enclosed is a Power of Attorney by Assignee and Revocation of Prior Powers.

Patentability of claims 27, 30, and 31

Applicants request reconsideration of the rejection of claims 27, 30, and 31 under §102(b) as being anticipated by Popeck (3,294,578) or Ferrier et al. (5,468,515).

With regard to anticipation under §102, the standard is stated as follows:

> A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. MPEP 2131.

As to the rejection over Popeck, claim 27 requires "an additive that substantially prevents silver migration by providing a barrier to moisture." Popeck fails to disclose or suggest this requirement. Claim 27 is therefore patentable over Popeck.

The Office action refers to the section of the Popeck reference extending from column 1, line 10 to column 2, line 60 as anticipating claim 27. This section describes nitrogen containing compounds which form complexes with metal oxides, hydroxides, carbonates, or halides. These complexes deposit the metal (e.g., Ag) cation onto the substrate:

> I have discovered that cations of copper, gold, palladium, platinum, silver and tellurium derived from a compound containing an anion such as oxide, hydroxide, carbonate, chloride, bromide, iodide etc., form complexes with certain nitrogen containing compounds in the presence either of hydrobromic or hydroiodic acid. These complexes deposit the metal cation .... Column 1, lines 11-18.

This section unequivocally describes the function of its nitrogen containing compounds --- to form complexes with metal compounds from which the metal is then deposited onto the substrate --- and makes absolutely no mention of any "additive that substantially prevents silver migration by providing a barrier to moisture." The claim is therefore patentable over Popeck because Popeck fails to disclose or suggest this requirement.

As to the rejection over Ferrier et al., claim 27 is directed to a process which a) is an immersion silver plating process, and b) is for improving the solderability of a metal surface. The process of Ferrier et al. '515, in contrast, is a process for activating a surface so that it is amenable to subsequent deposition of Ni-P electroless coating. Ferrier et al., therefore, fail to disclose these two basic requirements of claim 27.

Furthermore, and similarly to the rejection over Popeck, the Office action refers to the Abstract and Example 1 of Ferrier et al. as anticipating claim 27. These sections refer to an imidazole component, which promotes selectivity:

> The current invention proposes the addition of imidazole and imidazole derivatives to activator solutions. This addition of imidazole and/or imidazole derivatives promotes the selective activation of desired surfaces with activators which would, without the addition of the imidazole or imidazole derivatives, indiscriminately activate all surfaces. The addition of

> the imidazole or imidazole derivative thus adds the desirable property of selectivity to the activation without detracting from its other properties. Column 3, lines 30-39.

Ferrier et al. unequivocally describe the function of their imidazoles --- to promote selectivity --- and make absolutely no mention of any function "to prevent silver migration by providing a barrier to moisture." The claim is therefore patentable over Ferrier et al. because Ferrier et al. fail to disclose or suggest this requirement.

The Office action may be implying that this requirement of claim 27 of a moisture barrier additive is *inherently* anticipated by Popeck or Ferrier et al. If so, applicants respectfully request reconsideration and withdrawal of any rejection based on inherency. To establish inherency, the Office must establish by fact or technical reasoning why it is necessary that the Popeck or Ferrier et al. compositions contain a moisture barrier additive:

> Inherency, however, may not be established by **probabilities** or **possibilities**. The mere fact that a certain thing **may** result from a given set of circumstances is not sufficient. MPEP 2112 (quoting In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999))(emphasis added).

> In relying upon the theory of inherency, the examiner must provide a **basis in fact** and/or **technical reasoning** to reasonably support the determination that the allegedly inherent characteristic **necessarily flows** from the teachings of the applied prior art. MPEP 2112 (citing Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990))(emphasis added).

The Office has not demonstrated the inherency of this requirement in the Popeck and Ferrier et al. compositions. No basis in fact

or technical reasoning has been asserted as to why a moisture barrier would **necessarily flow** from the cited compositions. In fact, the statement by Popeck as to the function of his nitrogen containing compound (to form complexes for metal compounds for depositing the metal), the statement by Ferrier et al. as to the function of his imidazole component (to promote selectivity), and the references' silence as to any moisture-barrier function, suggests that a moisture barrier additive is inherently absent.

In view of the foregoing, claim 27 is not anticipated by either Popeck or Ferrier et al.

With regard to claims 30 and 31, these claims also require "an additive that substantially prevents silver migration by providing a barrier to moisture." This requirement is not disclosed by, suggested by, or inherent within either Popeck or Ferrier et al. Claims 30 and 31 are therefore patentable for the same reasons as claim 27.

Patentability of claims 28 and 29

Applicants request reconsideration of the rejection of claims 28 and 29 under §103(a) as being obvious over Popeck (3,294,578) or Ferrier et al. (5,468,515), each in view of JP 04-110,474.

With regard to Ferrier et al. '515, this patent relates to activating a Cu surface with a precious metal solution so that the surface has activity for the subsequent autocatalytic deposition of Ni-P. In particular, since Ni-P will not autocatalytically electrolessly plate directly onto Cu, it is necessary to first activate the surface to render it active to autocatalytic Ni-P electroless deposition. The '515 patent was concerned with this activation:

> This invention relates generally to a composition and method for activating surfaces for the autocatalytic deposition of metal deposits. The invention is particularly useful in selectively activating the copper surfaces of printed circuit boards for the reception of electroless nickel-phosphorus plating thereon. Abstract.
>
> The current invention proposes a new composition and process for activating surfaces for the auto catalytic deposition of metal deposits. ... The invention is particularly useful in selectively activating the copper surface of printed circuit boards for the reception of electroless nickel-phosphorous plating thereon. Col. 2, lns. 44-51.

In contrast to activating a surface for Ni-P deposition, applicants' process and compositions are for deposition in terms of plating to provide a silver coating to improve solderability of a surface.

MPEP 2141.01(a) states that art is analogous only if a) it is in applicants' field of endeavor, or b) it is "reasonably pertinent to the particular problem with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed Cir. 1992). Applicants' field of endeavor is specifically articulated in their claims as immersion silver plating to improve solderability of a metal surface. In contrast, Ferrier et al.'s field of endeavor is activating a surface for Ni-P deposition. These cannot fairly be deemed to be the same field of endeavor.

Having failed the first condition under MPEP 2141.01(a), Ferrier et al. '515 can serve as a basis for rejection under Section 103 only if it is "reasonably pertinent to the particular problem with which the inventor was concerned." A reference is reasonably pertinent if it is one, because of the matter with

which it deals, that logically would have commended itself to an inventor's attention in considering the problem. See In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992). Technology for activating a surface so one can subsequently deposit a Ni-P electroless coating is not the type of technology which would logically commend itself to one seeking to develop a Ag immersion composition and method for enhancing solderability of metal surfaces such as lead lines and connectors. This is because the concerns, problems, and requirements of the respective technologies are so divergent. For example, the primary concern of the first is to provide a catalyst on the surface which will cause Ni-P to deposit; the primary concern of the second is to provide a solderable metal in which solderability is preserved because tarnishment during storage is minimized. The service life of the first is momentary, because the component is dipped in the Ni-P immersion immediately after it is activated in the activator solution; the service life of the second is anywhere from moments to days to weeks to permanent, depending on the particular application.

A requirement to establish obviousness under §103 is stated as follows:

> ... the prior art reference (or references when combined) must teach or suggest **all** the claim limitations.
> MPEP 2143. (emphasis added)

JP '474 was cited for its use of a two-step process rather than a one-step process. JP '474 is not asserted to disclose or suggest a moisture barrier additive. As discussed above, neither Popeck nor Ferrier et al. disclose or suggest this requirement. Claims

28 and 29 are therefore patentable for the same reasons as stated above for claim 27.

II. REQUEST FOR DECLARATION OF INTERFERENCE

Applicants request that an interference be declared with the following:

1. U.S. Pat. 6,200,451 (S.N. 09/251,641),
2. U.S. Pat. 6,444,109 (S.N. 09/698,370),
3. U.S. Pat. 6,544,397 (S.N. 09/821,205), and
4. Ser. No. 10/341,859.

These patents and patent application are all owned by MacDermid, Incorporated.

Applicants' assignee (Enthone Inc.) and the owner of the patents and applications requested for inclusion in the interference own the following additional co-pending applications:

Enthone Inc.:	Ser. No. 10/118,417 (noted in an IDS submitted on June 17, 2002 in the present application); published October 24, 2002 (20002/0152925); Issue fee paid May 14, 2004; Supplemental Notice of Allowability mailed August 18, 2004.
MacDermid, Inc.:	Ser. No. 10/456,329; published November 13, 2003 (2003/0209446); Preliminary claim amendments not included in published application.

Applicants do not request inclusion of these applications in the interference.

A. Effective Filing Dates

The present application has an effective filing date of December 9, 1994. The patents and application for which a declaration of interference is requested each has an effective filing date of February 17, 1999.

In particular, the present application is a continuation of Ser. No. 08/939,656 (now 6,395,329), filed September 29, 1997, which was a continuation of application Ser. No. 08/567,885 (now abandoned), filed December 8, 1995, which claimed priority to Great Britain application Ser. No. 9425031.3, filed on December 9, 1994.

The filing date of U.S. Pat. No. 6,200,451 was February 17, 1999. Each of U.S. Pat. No. 6,444,109 (S.N. 09/698,370); U.S. Pat. No. 6,544,397 (S.N. 09/821,205); and Ser. No. 10/341,859 claims this priority date of February 17, 1999.

B. Correspondence between Claims

1. 6,200,451

Claims 1-4, 6-7, and 9-11 of 6,200,451 correspond to claims in the present application as follows:

6,200,451	Applicants' Claim
1	18
2	19
3	20
4	21
6	22
7	23
9	24

10 25

11 26

The only substantive difference between the respective claims is that the Markush group in claims 1 and 9 of 6,200,451 contains the following elements not included in the Markush group of applicants' corresponding claims: amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, propoxylated versions of the other additives, or mixtures of the additives.

Claims 5, 8, and 12 of 6,200,451 are directed to selected additives falling within the broader classes of additives recited in the independent claims. The particular additives are obvious in view of the broader classes. For example, tallowamine and cocoamine are commonly recited in literature describing fatty amines. See, for example, U.S. Pat. 4,542,068 (col. 2, ln. 66 ff.), and U.S. Pat. 4,339,343 (col. 4, lns. 10-26). Stearic acid, oleic acid, and palmitic acid are commonly listed in literature reciting fatty acids. See, for example, Solomons,
* Fundamentals of Organic Chemistry, p. 895 (1987)(copy enclosed), which lists palmitic, stearic, and oleic acids in its list of seven "Common fatty acids." Accordingly, all claims of applicants' application and of 6,200,451 are directed to the same patentable invention.

* Enclosed Appendix A correlates the specific language of the claims of 6,200,451 to applicants' claims.

2. 6,444,109

Claims 1-4 and 6-7 of 6,444,109 correspond to claims in the present application as follows:

6,444,109	Applicants' Claim
1	32
2	33
3	34
4	35
6	36
7	37

The only substantive difference between the respective claims is that the Markush group in claim 1 of 6,444,109 contains the following elements not included in the Markush group of applicants' corresponding claim: amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, or mixtures of the additives.

Claims 5 and 8 of 6,444,109 are directed to selected additives falling within the broader classes of additives recited in the independent claims. The particular additives are obvious in view of the broader classes. Accordingly, all claims of applicants' application and of 6,444,109 are directed to the same patentable invention.

* Enclosed Appendix B correlates the specific language of the claims of 6,444,109 to applicants' claims.

3. 6,544,397

Claims 1-4 and 6-7 of 6,544,397 correspond to claims in the present application as follows:

6,544,397	Applicants' Claim
1	18
2	19
3	20
4	21

6	22
7	23

The only substantive differences between the respective claims are that a) the Markush group in claim 1 of 6,544,936 contains the following elements not included in the Markush group of applicants' corresponding claim: amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, propoxylated versions of the other additives, or mixtures of the additives; and b) claim 1 of 6,544,397 contains a concentration limitation ("from about 0.1 g/l to about 15 g/l") not present in applicants' corresponding claim.

Claims 5 and 8-11 of 6,544,397 are directed to selected additives falling within the broader classes of additives recited in the independent claims. The particular additives are obvious in view of the broader classes. Accordingly, all claims of applicants' application and of 6,544,397 are directed to the same patentable invention.

* Enclosed Appendix C correlates the specific language of the claims of 6,544,397 to applicants' claims.

4. 10/341,859

Claims 9-12 and 14-15 of 10/341,859 correspond to claims in the present application as follows:

10/341,859	Applicants' Claim
9	32
10	33
11	34
12	35
14	35
15	37

The only substantive differences between the respective claims are that a) the Markush group in claim 9 of 10/341,859 contains the following elements not included in the Markush group of applicants' corresponding claim: amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, or mixtures of the additives; and b) claim 9 of 10/341,859 contains a concentration limitation ("from about 0.1 g/l to about 15 g/l") not present in applicants' corresponding claim.

Claims 13 and 16 of 10/341,859 are directed to selected additives falling within the broader classes of additives recited in the independent claims. The particular additives are obvious in view of the broader classes. Accordingly, all claims of applicants' application and of 10/341,859 are directed to the same patentable invention.

* Enclosed Appendix D correlates the specific language of the claims of 10/341,859 to applicants' claims.

C. 37 CFR 1.607

Applicants submit the following information as required by 37 CFR 1.607.

(1) Identification of Patents and Application

U.S. Pat. 6,200,451 (S.N. 09/251,641)

Applicants request that an interference be declared with U.S. Pat. 6,200,451 (S.N. 09/251,641). Applicants had originally requested this in their Preliminary Amendment filed March 12, 2002.

U.S. Pat. 6,444,109 (S.N. 09/698,370)

Applicants request that an interference be declared with U.S. Pat. 6,444,109 (S.N. 09/698,370). U.S. Pat. No. 6,444,109 was issued on September 3, 2002 based on S.N. 09/698,370, which was filed October 26, 2000 as a division of S.N. 09/251,641, which issued March 13, 2001 as 6,200,451, for which applicant requested a Declaration of Interference on March 12, 2002.

In applicants' request for Declaration of Interference submitted on March 12, 2002, applicants included the following statement:

> (1) Identification of Patent
>
> In accordance with 37 C.F.R. §1.607(a)(1), Applicants request that an interference be declared between the application filed herewith and U.S. Patent 6,200,451. Moreover, Applicants ask that the examiner consider the following pending applications for inclusion in the interference: (1) USSN 251641, filed February 17, 1999, which is a divisional of U.S. Patent 6,200,451; and (2) USSN 821205, filed March 29, 2001, which is a continuation in part of USSN 251641.

This request contained an error. USSN 251641 **is** 6,200,451. USSN 251641 is **not** a divisional of 6,200,451. The divisional of 6,200,451 is USSN 09/698,370, which issued as Pat. No. 6,444,109 on September 3, 2002. Applicants therefore request inclusion of 6,444,109 in the interference.

U.S. Pat. 6,544,397 (S.N. 09/821,205)

Applicants request declaration of an interference with 6,544,397. A Request for Declaration of Interference with patent application Ser. No. 09/821,205 was filed with the present

application on March 12, 2002. This application subsequently issued as U.S. Pat. 6,544,397 on April 3, 2003. Applicants therefore request inclusion of 6,544,397 in the interference.

S.N. 10/341,859

Applicants request that an interference be declared with Ser. No. 10/341,859. Application S.N. 10/341,859 was filed January 14, 2003 and is a division of application S.N. 09/821,205 (now 6,544,397), for which applicants requested a Declaration of Interference on March 12, 2002. Application 10/341,859 was published on June 26, 2003 in its originally filed form not reflecting its Preliminary Amendment. This Preliminary Amendment cancelled claims 1-8 and 17-20, and amended claim 9 as follows:

> 9. (Amended) A process for improving the solderability of a metal surface, said process comprising:
>
> a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter
>
> b). treating the immersion silver plated metal surface with a solution comprising from about 0.1 g/l to about 15 g/l of an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, and mixtures of any of the foregoing.

Applicants therefore request inclusion of 10/341,859 in the interference.

(2) Proposed Counts

Applicants propose the following counts, where Count I corresponds to claim 1 of 6,200,451 and to claim 18 of present application 10/099,936; Count II corresponds to claim 9 of 6,200,451 and to claim 24 of present application 10/099,936; and Count III corresponds to claim 1 of 6,444,109 and to claim 32 of present application 10/099,936;

I. A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising:

a). a soluble source of silver ions;

b). an acid;

c). an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, propoxylated versions of any of the foregoing and mixtures of any of the foregoing.

OR

A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising:

a). a soluble source of silver ions;

b). an acid;

c). an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, and ethoxylated versions of any of the foregoing.

II. An immersion silver plating solution comprising (i) a soluble source of silver ions, (ii) an acid and (iii) an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, ethoxylated versions of any of the foregoing, propoxylated versions of any of the foregoing and mixtures of any of the foregoing.

OR

An immersion silver plating solution comprising (i) a soluble source of silver ions, (ii) an acid and (iii) an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, ethoxylated versions of any of the foregoing.

III. A process for improving the solderability of a metal surface, said process comprising:

a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter

b). treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, and mixtures of any of the foregoing.

OR

A process for improving the solderability of a metal surface, said process comprising:

a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter

b). treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, and ethoxylated versions of any of the foregoing.

This is a revised request for declaration of interference in which these new Proposed Counts directly correlate the subject matter claimed in the respective patents and applications.

(3) Corresponding Claims of Third-Party Patents and Applications

a) 6,200,451 (S.N. 09/251,641)

Count I: Claims 1-8

Count II: Claims 9-12

b) U.S. Pat. 6,444,109 (S.N. 09/698,370)

Count III: Claims 1-8

c) U.S. Pat. 6,544,397 (S.N. 09/821,205)

Count I: Claims 1-8

Count II: Claims 9-11

d) S.N. 10/341,859

Claims 9-16: Count III

(4) Corresponding Claims of Present Application 10/099,936[1]

Count I: Claims 18-23, 27-30

Count II: Claims 24-26, 31, 38-40

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[1]All claims of 10/099,936 except 27-31 were allowed in March 26, 2004 Office action.

Count III: Claims 32-37

(5) Application of Claims 18-40 to the Present Specification

The following tables demonstrate that claims 18-40 are supported by the present specification. The citations are exemplary and not exhaustive.

Applicants' Amendments submitted March 13, 2002 and August 1, 2002 stated that claims 20, 23, 26, 34, 37, and 40, which include the element of "an oxidant," are supported by applicants' specification at page 20, line 23 through page 21, line 26 because "complexing agents can act as oxidants." Applicants do not currently rely on these passages for support of "oxidant." Instead, for support of these claims, applicants currently rely on, for example, the numerous references to nitric acid in the plating composition. Specification page 24, line 24; and Examples 2, 7, and 8. [Paragraphs 0086, 0103, 0123, and 0125 of the application as published Publication No. 2002/0150692.] Nitric acid is a known oxidant and a known oxidant for copper.

Applicants' claim	**Support in specification**
18. A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising:	Page 11, lines 1-9: "immersion plating etched [metal] pads ... in a metal plating step to form solderable plated metal surfaces." Page 14, line 12: "silver and bismuth ions are particularly preferred."
a). a soluble source of silver ions;	Page 14, line 18: "water soluble metal salt ... silver nitrate."
b). an acid;	Page 24, line 17: "compatible acid."
c). an additive selected from the group consisting of	
fatty amines,	Page 22, line 10: "fatty acid amines."
fatty amides,	Page 22, line 13: "amides" listed as type of fatty acid amine.
quaternary salts,	Page 22, line 14: "quaternary ammonium salts.
and ethoxylated versions of any of the foregoing.	Page 22, line 14: "ethoxylated quaternary ammonium salts, ethoxylated amides."

Applicants' claim	**Support in specification**
19. A process according to claim 18 wherein the silver plating solution also comprises material selected from the group consisting of	
imidazoles,	Page 23, line 4: "alkyl benzyl imidazoles, e.g. undecyl imidazoles."
benzimidazoles,	Page 23, line 8: "benzimidazoles."
imidazole derivatives	Page 23, lines 4-7: "undecyl imidazole ... in which the alkyl or benzyl groups are optionally substituted."
and benzimidazole derivatives.	Page 23, line 11: "2-(p-chlorobenzyl) benzimidazole."
20. A process according to claim 18 wherein the silver plating solution also comprises an oxidant.	Page 24, line 24: "nitric acid." Page 34, line 18: "nitric acid" (nitric acid is a known oxidant).
21. A process according to claim 18 wherein the metal surface comprises copper.	Page 27, line 16: "generally copper."

Applicants' claim	**Support in specification**
22. A process according to claim 21 wherein the silver plating solution also comprises a material selected from the group consisting of	
imidazoles,	Page 23, line 4: "alkyl benzyl imidazoles, e.g. undecyl imidazoles."
benzimidazoles,	Page 23, line 8: "benzimidazoles."
imidazole derivatives, and	Page 23, lines 4-7: "undecyl imidazole ... in which the alkyl or benzyl groups are optionally substituted."
benzimidazole derivatives.	Page 23, line 11: "2-(p-chlorobenzyl) benzimidazole."
23. A process according to claim 22 wherein the silver plating solution also comprises an oxidant.	Page 24, line 24: "nitric acid." Page 34, line 18: "nitric acid" (nitric acid is a known oxidant).

Applicants' claim	**Support in specification**
24. An immersion silver plating solution comprising	
(i) a soluble source of silver ions,	Page 14, line 18: "water soluble metal salt ... silver nitrate."
(ii) an acid and	Page 24, line 17: "compatible acid."
(iii) an additive selected from the group consisting of	Page 22, line 10: "fatty acid amines."
fatty amines,	Page 22, line 13: "amides" listed as type of fatty acid amine.
fatty amides,	
quaternary salts,	Page 22, line 14: "quaternary ammonium salts."
ethoxylated versions of any of the foregoing.	Page 22, line 14: "ethoxylated quaternary ammonium salts, ethoxylated amides."

Applicants' claim	**Support in specification**
25. An immersion plating solution according to claim 24 also comprising a material selected from the group consisting of	
imidazoles,	Page 23, line 4: "alkyl benzyl imidazoles, e.g. undecyl imidazoles."
benzimidazoles,	Page 23, line 8: "benzimidazoles."
imidazole derivatives,	Page 23, lines 4-7: "undecyl imidazole ... in which the alkyl or benzyl groups are optionally substituted."
and benzimidazole derivatives.	Page 23, line 11: "2-(p-chlorobenzyl) benzimidazole."
26. An immersion plating solution according to claim 24 also comprising an oxidant.	Page 24, line 24: "nitric acid." Page 34, line 18: "nitric acid" (nitric acid is a known oxidant).

Applicants' claim	**Support in specification**
27. (Previously presented) A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising: a). a soluble source of silver ions; b). an acid; and c). an additive that substantially prevents silver migration by providing a barrier to moisture.	Page 11, lines 1-9: "immersion plating etched pads ... in a metal plating step to form solderable plated metal surfaces." Page 14, line 12: "silver and bismuth ions are particularly preferred." Page 14, line 18: "water soluble metal salt ... silver nitrate." Page 24, line 17: "compatible acid." Page 19, lines 2-13: "The use of... a barrier to moisture."
28. (Previously presented) A process for improving the solderability of a metal surface, said process comprising: a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface, and b). treating the metal surface with a solution comprising an additive that substantially prevents silver migration by providing a barrier to moisture.	Page 11, lines 1-9: "immersion plating etched [metal] pads ... in a metal plating step to form solderable plated metal surfaces." Page 14, line 12: "silver and bismuth ions are particularly preferred." Page 19, lines 2-13: "The use of tarnish inhibitor ... it has been found that the present invention substantially prevents silver migration by providing a barrier to moisture."

Applicants' claim	**Support in specification**
29. (Previously presented) A process according to claim 28, wherein the solution described in step (b) is distinct from the immersion silver plating solution of step (a), and step (b) is performed after step (a).	Page 16, line 24: "Alternatively, the metal surfaces are formed in the plating step and subsequently the formed metal surfaces are contacted with a solution comprising a tarnish inhibitor in a further step."
30. (Previously presented) A process according to claim 28, wherein the additive is a component of the immersion silver plating solution.	Page 16, line 20: "... the tarnish inhibitor may be present in the plating solution itself so that the plating solution comprises the solution comprising tarnish inhibitor. Thus, in a preferred method of the invention, the plated metal surfaces are contacted with a solution comprising a tarnish inhibitor during the plating step (i.e., contact may be during formation of the plated metal surfaces)."
31. (Previously presented) An immersion silver plating solution comprising	
(i) a soluble source of silver ions,	Page 14, line 18: "water soluble metal salt ... silver nitrate."
(ii) an acid	Page 24, line 17: "compatible acid."
and (iii) an additive that substantially prevents silver migration by providing a barrier to moisture.	Page 19, lines 2-13: "The use of... a barrier to moisture."

Applicants' claim	**Support in specification**
32. A process for improving the solderability of a metal surface, said process comprising:	
a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter	Page 16, line 24: "Alternatively, the metal surfaces are formed in the plating step and subsequently the formed metal surfaces are contacted with a solution comprising a tarnish inhibitor in a further step."
b). treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of	
fatty amines,	Page 22, line 10: "fatty acid amines."
fatty amides,	Page 22, line 13: "amides" listed as type of fatty acid amine.
quaternary salts,	Page 22, line 14: "quaternary ammonium salts.
ethoxylated versions of any of the foregoing.	Page 22, line 14: "ethoxylated quaternary ammonium salts, ethoxylated amides."

Applicants' claim	**Support in specification**
33. A process according to claim 32 wherein the silver plating solution comprises a material selected from the group consisting of	
imidazoles,	Page 23, line 4: "alkyl benzyl imidazoles, e.g. undecyl imidazoles."
benzimidazoles,	Page 23, line 8: "benzimidazoles."
imidazole derivatives	Page 23, lines 4-7: "undecyl imidazole ... in which the alkyl or benzyl groups are optionally substituted."
and benzimidazole derivatives.	Page 23, line 11: "2-(p-chlorobenzyl) benzimidazole.
34. A process according to claim 32 wherein the silver plating solution also comprises an oxidant.	Page 24, line 24: "nitric acid." Page 34, line 18: "nitric acid" (nitric acid is a known oxidant).
35. A process according to claim 32 wherein the metal surface comprises copper.	Page 27, line 16: "generally copper.

Applicants' claim	**Support in specification**
36. A process according to claim 35 wherein the silver plating solution comprises a material selected from the group consisting of	
imidazoles,	Page 23, line 4: "alkyl benzyl imidazoles, e.g. undecyl imidazoles."
benzimidazoles,	Page 23, line 8: "benzimidazoles."
imidazole derivatives,	Page 23, lines 4-7: "undecyl imidazole ... in which the alkyl or benzyl groups are optionally substituted."
and benzimidazole derivatives.	Page 23, line 11: "2-(p-chlorobenzyl) benzimidazole."
37. A process according to claim 36 wherein the silver plating solution also comprises an oxidant.	Page 24, line 24: "nitric acid." Page 34, line 18: "nitric acid" (nitric acid is a known oxidant).

Applicants' claim	**Support in specification**
38. (Previously presented) An immersion silver plating solution comprising an additive selected from the group consisting of	
fatty amines,	Page 22, line 10: "fatty acid amines."
fatty amides,	Page 22, line 13: "amides" listed as type of fatty acid amine.
quaternary salts,	Page 22, line 14: "quaternary ammonium salts.
and ethoxylated versions of any of the foregoing.	Page 22, line 14: "ethoxylated quaternary ammonium salts, ethoxylated amides."
39. (Previously presented) An immersion plating solution according to claim 38 also comprising a material selected from the group consisting of	
imidazoles,	Page 23, line 4: "alkyl benzyl imidazoles, e.g. undecyl imidazoles."
benzimidazoles,	Page 23, line 8: "benzimidazoles."
imidazole derivatives, and	Page 23, lines 4-7: "undecyl imidazole ... in which the alkyl or benzyl groups are optionally substituted."
benzimidazole derivatives	Page 23, line 11: "2-(p-chlorobenzyl) benzimidazole."

Applicants' claim	**Support in specification**
40. (Previously presented) An immersion plating solution0 according to claim 38 also comprising an oxidant.	Page 24, line 24: "nitric acid." Page 34, line 18: "nitric acid" (nitric acid is a known oxidant).

(6) Explanation of How Requirements of 35 USC 135(b) Are Met

All claims identified in section (4) above were present in the application within one year of the issuance of the relevant patents and within one year of the publication of the relevant applications.

III. CONCLUSION

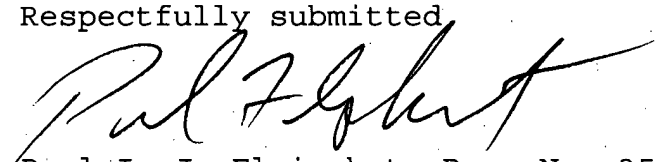
In view of the foregoing, applicants request issuance of a Notice of Allowability for claims 18-40.

Currently allowed claims in the present application directly interfere with issued claims in the third party's patents as demonstrated above. Upon allowance of claims 27-31, this case will be ripe for immediate declaration of an interference. Applicants request that an interference be declared between the present application and the following:

1. U.S. Pat. 6,200,451 (S.N. 09/251,641),
2. U.S. Pat. 6,444,109 (S.N. 09/698,370),
3. U.S. Pat. 6,544,397 (S.N. 09/821,205), and
4. Ser. No. 10/341,859.

Please contact the undersigned if there are any questions concerning the foregoing.

Respectfully submitted,



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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of Andrew Soutar, et al. Art Unit 1762
Serial No. 10/099,936
Filed March 13, 2002
Confirmation No. 3281
For PRINTED CIRCUIT BOARD MANUFACTURE

POWER OF ATTORNEY BY ASSIGNEE OF ENTIRE INTEREST AND REVOCATION OF PRIOR POWERS AND PERMITS TO INSPECT

TO THE COMMISSIONER FOR PATENTS,

SIR:

Enthone Inc., assignee of the entire right, title and interest in and to the invention of the above application, hereby revokes and cancels all existing powers of attorney in the above-entitled application and appoints the attorneys/agents associated with Customer No. 000321 with full power of substitution, revocation and addition, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

Correspondence is to be directed to:
Paul I. J. Fleischut
Senniger Powers
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16th Floor
St. Louis, Missouri 63102.

The undersigned hereby revokes and cancels all existing permits to inspect the official file of the above-entitled application.

By: VP/Secy

Name: William S. Gorgone
Title: VicePresident/Secretary

Date: September 20, 2004

FUNDAMENTALS OF ORGANIC CHEMISTRY

THIRD EDITION

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About the cover:

The images on the cover are two computer-generated representations of $C[CH_2CH_2CH_2C[CONHC(CH_2OH)_3]_3]_4$, a new type of molecule, called a *cascade molecule* or *arborol.* This molecule was recently synthesized at the University of South Florida in the laboratories of Professor George R. Newkome by Dr. Sadao Arai.[1] The photographs were obtained by molecular modeling with Polygen's QUANTA/CHARMm software[2] on a Silicon Graphics Iris 4D/50GT 3D graphics workstation by Dr. Gregory R. Baker.

[1] Newkome, G. R.; Arai, S. 193rd National Meeting of the American Chemical Society, Denver CO: April 5–10, 1987; ORGN 66.
[2] Polygen Corporation, 200 Fifth Ave., Waltham, MA 02254

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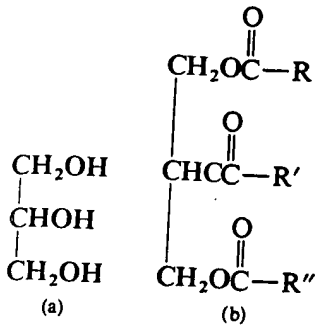
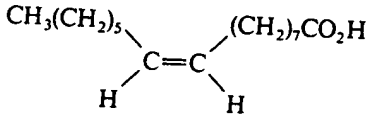
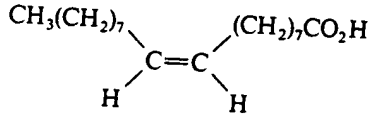
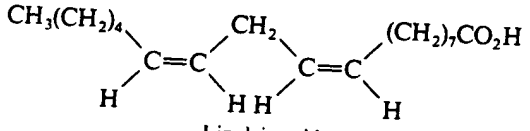
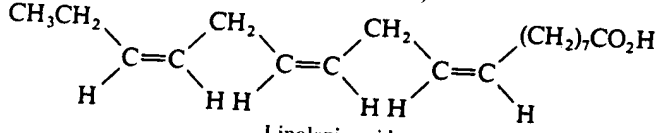
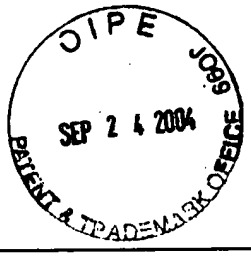


FIGURE 22.1 (*a*) Glycerol. (*b*) A glyceryl trialkanoate. R, R′, and R″ are usually long-chain alkyl groups. R, R′, and R″ may also contain one or more carbon–carbon double bonds. In a glyceryl trialkanoate R, R′, and R″ may all be different.

TABLE 22.1 Common fatty acids

	mp (°C)
Saturated Carboxylic Acids	
$CH_3(CH_2)_{12}CO_2H$ Myristic acid (tetradecanoic acid)	54
$CH_3(CH_2)_{14}CO_2H$ Palmitic acid (hexadecanoic acid)	63
$CH_3(CH_2)_{16}CO_2H$ Stearic acid (octadecanoic acid)	70
Unsaturated Carboxylic Acids	
 Palmitoleic acid (*cis*-9-hexadecenoic acid)	32
 Oleic acid (*cis*-9-octadecenoic acid)	4
 Linoleic acid (*cis,cis*-9,12-octadecadienoic acid)	−5
 Linolenic acid (*cis,cis,cis*-9,12,15-octadecatrienoic acid)	−11

APPENDIX A



6,200,451 (MacDermid)	10/099,936 (Enthone)
1. A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising: a). a soluble source of silver ions; b). an acid; c). an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, propoxylated versions of any of the foregoing and mixtures of any of the foregoing.	18. A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising: a). a soluble source of silver ions; b). an acid; c). an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, and ethoxylated versions of any of the foregoing.
2. A process according to claim 1 wherein the silver plating solution also comprises material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives and benzimidazole derivatives.	19. A process according to claim 18 wherein the silver plating solution also comprises material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives and benzimidazole derivatives.
3. A process according to claim 1 wherein the silver plating solution also comprises an oxidant.	20. A process according to claim 18 wherein the silver plating solution also comprises an oxidant.
4. A process according to claim 1 wherein the metal surface comprises copper.	21. A process according to claim 18 wherein the metal surface comprises copper.

5. A process according to claim 1 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, tallow amine, cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl) dimethyl hydroxyethylammonium dihydrogen phosphate, alkyliminodipropionic acid monosodium salts, and mixtures of the foregoing.	
6. A process according to claim 4 wherein the silver plating solution also comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.	22. A process according to claim 21 wherein the silver plating solution also comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.
7. A process according to claim 6 wherein the silver plating solution also comprises an oxidant.	23. A process according to claim 22 wherein the silver plating solution also comprises an oxidant.

8. A process according to claim 7 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, tallow amine, cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl) dimethyl hydroxyethylaminium dihydrogen phosphate, alkyliminadipropionic acid monosodium salts, and mixtures of the foregoing.	
9. An immersion silver plating solution comprising (i) a soluble source of silver ions, (ii) an acid and (iii) an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, ethoxylated versions of any of the foregoing, propoxylated versions of any of the foregoing and mixtures of any of the foregoing.	24. An immersion silver plating solution comprising (i) a soluble source of silver ions, (ii) an acid and (iii) an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, ethoxylated versions of any of the foregoing.
10. An immersion plating solution according to claim 9 also comprising a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.	25. An immersion plating solution according to claim 24 also comprising a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.

11. An immersion plating solution according to claim 9 also comprising an oxidant	26. An immersion plating solution according to claim 24 also comprising an oxidant.
12. An immersion plating solution according to claim 9 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl) dimethyl hydroxyethylaminium dihydrogen phosphate, alkyliminadipropionic acid monosodium salts, and mixtures of the foregoing.	

APPENDIX B

6,444,109 (MacDermid)	**10/099,936 (Enthone)**
1. A process for improving the solderability of a metal surface, said process comprising: a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter b). treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphateric salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, and mixtures of any of the foregoing.	32. A process for improving the solderability of a metal surface, said process comprising: a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter b). treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, ethoxylated versions of any of the foregoing.
2. A process according to claim 1 wherein the silver plating solution comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives and benzimidazole derivatives.	33. A process according to claim 32 wherein the silver plating solution comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives and benzimidazole derivatives.
3. A process according to claim 1 wherein the silver plating solution also comprises an oxidant.	34. A process according to claim 32 wherein the silver plating solution also comprises an oxidant.

4. A process according to claim 1 wherein the metal surface comprises copper.	35. A process according to claim 32 wherein the metal surface comprises copper.
5. A process according to claim 1 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, tallow amine, cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl) dimethyl hydroxyethylaminium dihydrogen phosphate, alkyliminadipropionic acid monosodium salts, and mixtures of the foregoing.	
6. A process according to claim 4 wherein the silver plating solution comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.	36. A process according to claim 35 wherein the silver plating solution comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.
7. A process according to claim 6 wherein the silver plating solution also comprises an oxidant.	37. A process according to claim 36 wherein the silver plating solution also comprises an oxidant.

8. A process according to claim 7 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, tallow amine, cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl) dimethyl hydroxyethylaminium dihydrogen phosphate, alkyliminadipropionic acid monosodium salts, and mixtures of the foregoing.	

APPENDIX C

6,544,397 (MacDermid)	**10/099,936 (Enthone)**
1. A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising a). a soluble source of silver ions; b). an acid; c). from about 0.1 g/l to about 15 g/l of an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, propoxylated versions of any of the foregoing and mixtures of any of the foregoing.	18. A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising: a). a soluble source of silver ions; b). an acid; c). an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, and ethoxylated versions of any of the foregoing.
2. A process according to claim 1 wherein the silver plating solution also comprises material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives and benzimidazole derivatives.	19. A process according to claim 18 wherein the silver plating solution also comprises material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives and benzimidazole derivatives.
3. A process according to claim 1 wherein the silver plating solution also comprises an oxidant.	20. A process according to claim 18 wherein the silver plating solution also comprises an oxidant.

4. A process according to claim 1 wherein the metal surface comprises copper.	21. A process according to claim 18 wherein the metal surface comprises copper.
5. A process according to claim 1 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, tallow amine, cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl) dimethyl hydroxyethylammonium dihydrogen phosphate, alkyliminodipropionic acid monosodium salts, and mixtures of the foregoing.	
6. A process according to claim 4 wherein the silver plating solution also comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.	22. A process according to claim 21 wherein the silver plating solution also comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.
7. A process according to claim 6 wherein the silver plating solution also comprises an oxidant.	23. A process according to claim 22 wherein the silver plating solution also comprises an oxidant.

8. A process according to claim 7 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, tallow amine, cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl) dimethyl hydroxyethylaminium dihydrogen phosphate, alkyliminadipropionic acid monosodium salts, and mixtures of the foregoing.	
9. An immersion silver plating solution comprising an additive selected from the group consisting of ethoxylared tallowamine, ethoxylated cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl)dimethyl hydroxyethylaminium dihydrogen phosphate, alkyliminadipropionic acid monosodium salts, and mixtures of the foregoing.	
10. An immersion plating solution according to claim 9 also comprising a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.	

11. An immersion plating solution according to claim 9 also comprising an oxidant.	

APPENDIX D

10/341,859 (MacDermid)	**10/099,936 (Enthone)**
9. (Amended) A process for improving the solderability of a metal surface, said process comprising: a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter b). treating the immersion silver plated metal surface with a solution comprising from about 0.1 g/l to about 15 g/l of an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, and mixtures of any of the foregoing.	32. A process for improving the solderability of a metal surface, said process comprising: a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter b). treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, ethoxylated versions of any of the foregoing.
10. A process according to claim 9 wherein the silver plating solution comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives and benzimidazole derivatives.	33. A process according to claim 32 wherein the silver plating solution comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives and benzimidazole derivatives.
11. A process according to claim 9 wherein the silver plating solution also comprises an oxidant.	34. A process according to claim 32 wherein the silver plating solution also comprises an oxidant.

12. A process according to claim 9 wherein the metal surface comprises copper.	35. A process according to claim 32 wherein the metal surface comprises copper.
13. A process according to claim 9 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, tallow amine, cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl) dimethyl hydroxyethylaminium dihydrogen phosphate, alkyliminadipropionic acid monosodium salts, and mixtures of the foregoing	
14. A process according to claim 12 wherein the silver plating solution comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.	36. A process according to claim 35 wherein the silver plating solution comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.
15. A process according to claim 14 wherein the silver plating solution also comprises an oxidant.	37. A process according to claim 36 wherein the silver plating solution also comprises an oxidant.

16. A process according to claim 15 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, tallow amine, cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oteic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl) dimethyl hydroxyethylaminium dihydrogen phosphate, alkyliminadipropionic acid monosodium salts, and mixtures of the foregoing.	

10/456,329 (MacDermid)	10/099,936 (Enthone)
21. (New) A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising: (a) a soluble source of silver ions; (b) an acid; and (c) an aromatic nitro compound.	
22. (New) A process according to claim 21, wherein the aromatic nitro compound comprises an aromatic dinitro compound.	
23. (New) A process according to claim 21, wherein the aromatic nitro compound is 3,5 dinitrohydroxy benzoic acid.	
24. (New) A process according to claim 21, wherein the concentration of the aromatic nitro compound is from 0.1 to 25 grams per liter.	

25. (New) A silver plating solution comprising: (a) a soluble source of silver ions; (b) an acid; and (c) an aromatic nitro compound.	
26. (New) A silver plating solution according to claim 25, wherein the aromatic nitro compound comprises an aromatic dinitro compound.	
27. (New) A silver plating solution according to claim 25, wherein the aromatic nitro compound is 3,5 dinitrohydroxy benzoic acid.	
28. (New) A silver plating solution according to claim 25, wherein the concentration of the aromatic nitro compound is from 0.1 to 25 grams per liter.	